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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,900	10/21/2003	Jerome Daviot	60937-0172-US	3765

9629 7590 08/23/2006

MORGAN LEWIS & BOCKIUS LLP  
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WASHINGTON, DC 20004

EXAMINER
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AHMED, SHAMIM

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,900	<b>Applicant(s)</b> DAVIOT ET AL.	
	<b>Examiner</b> Shamim Ahmed	<b>Art Unit</b> 1765	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29,31-35 is/are allowed.
- 6) ☒ Claim(s) 1-28 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/24/06</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. In view of the appeal brief filed on 5/23/06, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

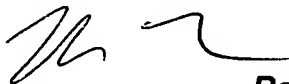
To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

MADINE NORTON - 1765  
SUPERVISORY PATENT EXAMINER



**Response to Arguments**

2. Applicant's arguments with respect to claims 31-35 have been considered but are moot in view of the new ground(s) of rejection.

As to the rejection based on Leon and Gogg, applicants argue that Gogg is not properly combined with Leon because the use of phosphoric acid in Gogg is for

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adjusting pH to stabilize the main ingredient ozone, whereas Leon admixing the ingredients in such that a desired pH is obtained.

In response, examiner states that the reference of Gogg is cited for the teaching that phosphoric acid can generally be used to adjust pH. One of ordinary skilled in the art would be motivated to add phosphoric acid to maintain/adjust pH throughout the process of Leon. Applicants have not shown anything unexpected by employing a known pH adjuster.

Examiner also states that the argument is not persuasive because as the process continue the pH of the composition varies and one of ordinary skilled in the art would have been motivated to adjust the pH within the range by using Gogg et al's teaching.

With respect to claim 30, Skee (' 403 patent), applicant's argument is not commensurate with the claim because the acidic pH is not claimed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-13, 17-23 and 24 -28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leon et al (6,030,932) in view of Gogg et al (6,686,297).

Leon et al disclose a cleaning composition comprises water, alkaline compound such as hydroxylamine or quaternary ammonium hydroxide, a fluorine-containing compound such as ammonium bi fluoride (col.4, lines 31-59 and col.5, lines 25-27).

Leon et al also teach that controlling of pH in the range of 2-9 is critical (col.5, lines 13-21 and col.6, lines 30-35).

Leon et al fail to disclose that the composition comprises phosphoric acid.

However, in a cleaning composition, Gogg et al teach that additives such as phosphoric acid can be added for adjusting pH to a desired value of the cleaning liquid and thereby increasing the effectiveness of the cleaning or treatment liquid (col.3, lines 51-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of claimed invention to modify Leon et al with Gogg et al by introducing phosphoric acid in order to efficiently controlling or adjusting the pH of the cleaning composition for increasing the effectiveness of the cleaning composition as taught by Gogg et al.

As to claim 2, Leon et al teach that the pH of the composition is maintained in the range of 2-6 (col.5, lines 13-21).

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As to claims 7-9, Leon et al teach that the cleaning composition also includes other acid compounds such as lactic acid as corrosion inhibitor, wherein the corrosion inhibitor content is in minor amount (col.6, lines 5-11).

As to claims 10-11, Leon et al teach that the composition also comprises fluoride –containing compound such as ammonium bi fluoride of about 0.5 to 10% by weight (col.4, lines 50-59).

As to claims 17-23, it would have been obvious choice to one of ordinary skilled in the art that the cleaning composition will include or exclude the claimed constituents depending on the types of residue to be cleaned.

As to claims 24, 25,27, Leon et al teach that the concentration of hydroxylamine is in the range of 0.1% to 10% (col.5, lines 45-48) and the composition may include a quaternary ammonium hydroxide (col.6, line s13-18).

Leon et al fail to disclose the exact concentration of the claimed compounds but it would have been obvious to optimize as the optimization of a result effective variable involves only routine skill in the art because increasing or decreasing the concentration directly affecting the pH of the composition and would have been obvious to optimize by routine experimentation. See MPEP 2144.05 (II).

6. Claims 1-5,7-8 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herdt (6,121,219).

Herdt disclose an aqueous cleaning composition comprises amine or a quaternary ammonium compound, phosphoric acid, or in combination of organic acid of

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citric acid, surfactant and organic solvent with a pH ranging 1-5 (col.2, lines 35-55, col.3, lines 7-36, col.7, lines 21-31 and col.7, line 63-col.8, line 10).

Herdts discloses the concentration of the ingredients in table 1 at col.14, which overlaps the claimed ranges and it has been held that where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

Herdts composition includes almost all the claimed ingredients and is capable of cleaning semiconductor.

7. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Skee (6,465,403).

Skee discloses a composition for cleaning microelectronic substrate, wherein the composition comprises water, suitable bases such as a quarternary ammonium hydroxide or organic amines (alkanoamines), surfactants (col.6, lines 29-col.7, lines 65) and phosphoric acid and furthermore, oxalic acid dehydrate may be added to the composition (col.48, lines 15-24).

Skee fail to disclose the exact concentration of the claimed compounds but it would have been obvious to optimize as the optimization of a result effective variable involves only routine skill in the art because increasing or decreasing the concentration directly affecting the rate of the cleaning composition and would have been obvious to optimize by routine experimentation. See MPEP 2144.05 (II).

***Allowable Subject Matter***

8. Claims 29,31,32-35 are allowed.
9. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach the invented cleaning solution as defined in claims 29,31 and 33.

***Conclusion***

10. The prior art made of record in PTO-892 and not relied upon is considered pertinent to applicant's disclosure.

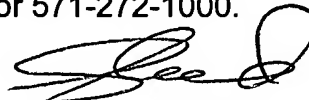
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Shamim Ahmed  
Primary Examiner  
Art Unit 1765

SA  
August 7, 2006